

REMARKS

Claims 1-10, 13-32, 35-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gruber (US 6326458) in view of Van Gansberghe (US 6800767). The Examiner states that Gruber does not disclose the use of melt crystallization after condensing crude lactide monomer prior to polymerization nor the aqueous treatment steps. The Examiner continues that Van Gansberghe discloses melt crystallization before an extractive step, and that it would be obvious to include the steps of extraction, crystallization, separation, drying and melt crystallization in the process of Gruber. Applicant respectfully disagrees.

The claimed invention is not obvious. In Gruber, as shown in Figure 1, water is removed in an evaporator with crude lactic acid, forming lactic acid prepolymers (column 9, line 64 to column 10, line 4 and column 10, lines 49 to 52). The prepolymers are then depolymerized into lactide (column 11, lines 38 to 41), which is then removed as crude lactide vapor and condensed. The crude lactide is then distilled (column 12, lines 55 to 59).

The claimed invention recites that melt crystallization occurs before providing aqueous treatment of residual fractions from the step of melt crystallization. Melt crystallization is stereospecific; extractive crystallization is not. By performing melt crystallization of a crude lactide product and then providing aqueous treatment of the residual fractions from the step of melt crystallization, the D-lactic units present can be maintained at a reasonable and/or constant level. D-lactic units are present in the form of meso-lactide, and the meso-lactide is slowly eliminated in a PLA polymerization step (shown in Tables 2 to 8 of Applicant's application). By providing the step of melt crystallization first, the incorporation of meso-lactide is a convenient way to control the PLA properties.

However, Gruber discloses an opposite process. Melt crystallization is applied on a wet cake obtained by extractive crystallization, and there could be an accumulation of D-lactic units in the form of meso-lactide, and not an elimination of meso-lactide through the PLA polymerization step. If the process of Van Gansberghe was employed in the process of Gruber, the process would provide completely different results than what Gruber requires. This would change how the process of Van Gansberghe functions. The claimed invention is not obvious, and Applicant respectfully requests that the rejection be withdrawn.

Claims 11, 12, 33, 34, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gruber and Van Gansberghe in view of O'Brien (US 5521278). The claims

depend on patentable independent claims 1 and 3 and are allowable for the reasons set forth above. Therefore, the references taken together do not teach the claimed invention. The claimed invention is not obvious, and Applicant respectfully requests that the rejection be withdrawn.

The Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, P.C. \$120.00 for the one month extension fee. No additional fees are seen to be required. If any additional fees are due, however, the Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, P.C., for any additional fees or credit the account for any overpayment. Therefore, favorable reconsideration and allowance of this application is respectfully requested.

Respectfully Submitted,

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